

NOTES ON THE ACTION OF GELSEMIUM IN SOME LOCAL SPASMS AND NEURALGIAS.

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DURING the last two years I have had opportunities at the Polyclinic, and to a less extent at the Woman's Hospital and in private practice, of observing the effects of gelsemium. From this experience the drug seems to be serviceable in the treatment of some local spasms, some neuralgias, and a few distressing and unpleasant head symptoms, such as a feeling of fullness, beating and throbbing. That the efficient dose of the remedy, and by this I mean of the same preparation, varies through wide limits for different individuals is one of the most striking facts in reference to it.

The first and chief case to which I will refer in these notes was one of spasmodic torticollis, a patient who came to the Polyclinic in November, 1889, having developed clonic spasm in the muscles supplied by the spinal accessory nerve after an accident in which she was thrown out of a wagon. She was used by Dr. Mills as a text for a lecture at the Philadelphia Hospital, a report of which was published in the "University Magazine," February, 1890, and the details of the case can be found in this article. The spasm was very severe in character, and was brought on and increased by walking, excitement, or by pressure in the left occipital region. It stubbornly resisted treatment by such means as potassium iodide and bromides, mercury, salicylates, arsenious acid, assafœtida, sumbul, blistering, and the actual cautery.

The present notes refer almost entirely to the use of gelsemium, which was carried to an extreme and with

great benefit. She was first placed upon the fluid extract of gelsemium in doses of five drops four times daily; and this dose was increased daily by one drop until she took twenty-four drops four times daily, up to which time no constitutional effects were visible. She was then placed upon Parke, Davis & Co.'s normal liquid gelsemium, beginning with five drops three times daily. The dose of this was also increased until she took twenty drops, when she began to see double and feel dizzy. The drug was omitted for one day, and she was then again put upon twenty drops, and this was increased to twenty-five with no effect. (Two drops of fluid extract of gelsemium are equal to about one minim.)

At this time, January 18, 1889, she went to the Woman's Hospital, under the care of Dr. John B. Roberts, who placed her upon Shoemaker's fluid extract of gelsemium, beginning with five-minim doses. January 19th the dose was increased to ten minims; this was further increased between the 19th and 31st, until she was taking twenty minims—she then complaining of dizziness and disturbance of vision, once seeing double, but these symptoms lasting only a short time. On the 31st she began to take seven minims every two hours, day and night, this to be increased one drop every other dose after the first twelve hours. The next day, February 1st, decided constitutional effects were obtained, the patient remaining all day in bed with double vision and considerable headache. These symptoms passed away and gelsemium was continued and increased, and by the 4th she had reached fifteen minims. The dose was then reduced to thirteen minims, and kept at this every two hours both day and night. On the 8th the constitutional effects of the drug were again marked, and there was now some improvement in the spasm and position of the head. She continued until the 21st taking thirteen minims every two hours and steadily improving. She was now able to walk out without suffering, the spasm being better, the head much straighter and the muscles softer.

On the 21st the frequency of giving the gelsemium was reduced; the thirteen minims being now given every two hours during the day—the first dose at 7 A. M. and the last at 7 P. M.—and only twice during the night, at 11 P. M. and 3 A. M. This treatment was continued forty-seven days until she left the hospital. Massage and sitz-baths were also used, and March 4th, tincture of chloride of iron, fourteen drops an hour after each meal, was ordered. Heat and pressure to the affected muscles were also used. April 9th the patient was discharged, still taking the same dose of gelsemium and tincture of chloride of iron. I have heard from her within a week, and she still continues better, but has not taken any gelsemium for nearly three weeks.

For three weeks, from January 31st to February 21st, this patient took for the greater part of the time twenty-six drops or thirteen minims every two hours night and day. For another part of this time, alternately, either thirteen minims, or seven and a half minims every two hours, or about this amount. For the remaining forty-seven days she took about thirteen minims eight times daily. The average taken daily, when the maximum amount was administered, was about one hundred and fifty-six minims. During three weeks, from January 31st to February 21st, she probably took between five and six ounces, and during the last forty-seven days in all 4,888 minims, equal to eighty-one ounces.

A case of this kind may be worth reporting, both on account of the great benefit derived from the use of gelsemium and as a study of the dosage of this drug. It is well known that local clonic spasm is usually very obstinate. I have seen two severe cases of spasmodic torticollis besides this one. In one of these an inch or more of the accessory nerve was resected, but the spasm returned with full force; in the other, myotomy was performed, but with no benefit. The latter case made remarkable improvement under large doses of gelsemium. Numerous cases have been operated upon, but without success. The actual cautery, although useful, often fails; it was thoroughly tried in the case just reported. Such facts afford an excuse for heroic drugging.

A woman, B. R., thirty-four years old, brought to the Polyclinic by Dr. Bunting, was an illustration of one of the forms of painless tic, or spasm of the muscles supplied by the seventh nerve. Three years before she noticed a twitching under the right eye; this gradually spread over the lower face. Most of the time the lower eyelid was twitching spasmodically, and at the same time the mouth was drawn upward and outward. When talking or under any excitement, the spasm increased, so that the eye closed entirely, and the face was strongly contracted. The muscles chiefly affected were the zygomatics, the levators of the angle of the mouth, and the lower half of the orbicularis palpebrarum. When the attacks were severe she complained of pain and discomfort in the face. She was put upon two minims of the fluid extract of gelsemium, four times daily, with directions to increase the dose until constitutional symptoms were obtained. When eight minims were reached she began to complain of dimness of sight, dizziness, and a feeling as if she were drunk; but the spasm was much better than it had been for months, and the local sense of pain and discomfort had disappeared. She was now ordered to begin again with five minims four times daily and increase gradually. When seven minims were taken she became dizzy, her sight was dim, and her limbs felt almost helpless; but the spasm had almost disappeared. The dose was reduced to three minims; and later increased to four minims without physiological effects, when the spasm again getting worse, the dose was pushed up to seven minims, but the effects were so distressing that the gelsemium had to be stopped for a week. She is still under treatment.

In some cases of local spasm patients seem to stand large and long-continued doses of gelsemium, much as those suffering from severe pain will endure enormous doses of opiates or other narcotics. A gelsemium habit is not formed, although the drug is taken in immense doses and for a long time, one and perhaps the principal reason for this being its unpleasant effects.

In certain neuralgias, particularly those of the upper branches of the fifth nerve, both the therapeutic and toxic

effects seem to be obtained with much smaller doses. In three such cases decided relief of pain was produced quickly by the administration of a comparatively small dose of the fluid extract of gelsemium. It would be a great gain if we could separate those cases of neuralgia in which the drug has a favorable action from those in which it proves inert or of but little benefit. In one case the patient complained of great facial pain, stiffness of the jaw, and pain in opening and closing the mouth. She was put upon three minims of the fluid extract, the dose to be increased, and by the time she had reached six minims the pain had disappeared, and the relief was probably permanent, as after several weeks she has had no return of the symptoms. In two other cases of ciliary and supra-orbital neuralgia the pain was relieved by doses of three minims.

Gelsemium is a drug about which differing reports and differences of opinion are common. Cases of poisoning are reported which show the small amount of this drug which will produce toxic or fatal effects. Boutelle¹ reports a case of fatal poisoning in a man, aged twenty-four, who took for neuralgia a teaspoonful of Tilden's fluid extract of gelsemium and repeated the dose in fifteen minutes. Friedrich² reports the case of a girl of fourteen, who took a teaspoonful, and in less than an hour began to show physiological effects, later convulsions, and still later unconsciousness came on; but under active treatment she recovered. Sinkler³ reports the case of a woman who had serious toxic symptoms from taking five drops three times daily for ten days, the first dose having produced physiological effects. Dr. De Wolfe,⁴ for facial neuralgia, took ten minims of the fluid extract, and repeated this in half an hour. In less than fifteen minutes he was drowsy and could not keep awake; he was taken with shivering, dizziness, and symptoms of collapse; but under the use of stimulants the unpleasant symptoms passed away.

¹ Boston Med. and Surg. Journal, 1874.

² Philadelphia Medical Times, December 30, 1882.

³ Philadelphia Medical Times, January 5, 1878.

⁴ British Med. Journal, vol. i., 181, p. 193.

In the "Therapeutic Gazette," for June and November, 1889, and January, 1890, are some notes and queries, about the use of gelsemium, which bring out a few interesting points with reference to its dosage. Dr. Hutchings gives some personal experience of the drug, and considers a dose of fifteen or twenty drops not dangerous. Dr. Lallerstedt says that he has been using gelsemium for seventeen years, and that he has given as much as one hundred and twenty-five minims without the least bad effects; that he gives it to infants and in old age, and that he frequently gives forty minims for sick-headache. I agree with the editor of the "Therapeutic Gazette," who, in commenting on these statements, concludes that the fluid extract which the doctor used must have been a remarkably inert preparation. The editor also records five fatal cases in which the dose which led to collapse and death ranged all the way from ten minims to a teaspoonful.

Dr. Weir Mitchell uses gelsemium largely in his practice, and was the first to advocate its employment in efficient and increasing doses for neuralgic and spasmodic affections.

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Reference is made in the "Medical Record," March 8, 1890, to Dr. C. E. Olmsted's account of a peculiar congenital protrusion of brain-substance through the frontal bone of a child five years old. The opening in the frontal bone was about the size of a silver dollar. Pulsations in the tumor could be distinctly seen as well as felt. The child had convulsions at irregular intervals, coming on without apparent cause, at which times the brain-substance would recede through the opening in the skull, and the defect in the frontal bone could readily be defined by the finger. After the convulsion, the tumor—about the size of a plum—would again appear on the forehead.